

REMARKS/ARGUMENTS

Claims 1 – 3, 6 – 9, 11 - 14, 17 and 19 remain in this application. Claims 1 and 17 have been amended. Claims 4, 5, 10, and 18 have been canceled. Claims 15 and 16 have been withdrawn as a result of an earlier restriction requirement. In view of the examiner's earlier restriction requirement, applicant retains the right to present claims 15 and 16 in a divisional application.

§ 112 Rejections

The Examiner has rejected claims 17 – 19 under 35 U.S.C. §112 as failing to comply with the written description requirement.

Applicants point out that several different temperatures are disclosed in the specification, depending on traverse speed. In addition to 960°C, as highlighted by the Examiner, 780°C and 640°C are disclosed. Applicants have amended claim 17 (and subsequently canceled claim 18) appropriately to reflect values in the specification. The Examiner's assertion that the limitation recited in claim 19 (640°C) is unsupported does not hold.

§ 103 Rejections

The Examiner has rejected claims 1, 6 – 8, and 13 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659).

The Examiner argues that Fabian teaches a core glass rod interface with a cladding tube having an OH concentration within 100 μm of the surface of the glass rod less than 0.200 pm by weight, and thus "it would have been obvious to one of ordinary skill to utilize the desired OH concentration of Fabian in the process of Itou to minimize the optical attenuation".

Applicants respectfully disagree and traverse the rejection. The Examiner has not provided an explanation for how one of ordinary skill in the art might utilize the desired attribute (e.g. low attenuation) as disclosed by Fabian in the methods of Blankenship and Itou. Applicants do not dispute that reduced attenuation is a desirable goal. However,

the method of Fabian is not applied by Applicants in the present invention, and not applicable to Blankenship and Itou. Desire is not a claim limitation.

Fabian points out that when an oxyhydrogen gas burner is used for deposition of a soot layer on the core glass, OH groups are incorporated into the first cladding layer. (See paragraph [0006].) To overcome the problem of high OH concentrations resulting from the laydown of soot with a burner, Fabian instead applies a cladding glass tube onto the core cylinder (see paragraph [0013]). To wit, Fabian employs a rod-in-tube method where a glass rod consisting of core glass and a first cladding glass layer is inserted into a cladding tube (see paragraph [0047]). The tube is thereafter collapsed onto the core rod (see paragraph [0036] and [0047]). The tube itself may be a glass tube, or optionally a porous tube (paragraph [0023]). Both the core/cladding rod and the cladding tube have low OH concentration that is previously obtained by known dehydration procedures (paragraphs [0012] and [0035]). Fabian also discloses optional flame deposition of a subsequent (third) cladding layer onto the collapsed tube, but Fabian is silent as to the resulting OH concentration of the interface between the cladding tube and a subsequent burner-deposited layer. In accordance with the teaching of Fabian, OH contamination via deposition of the third layer is presumably sufficiently remote from the core as to not pose an attenuation risk.

It is important to note that according to the method of Fabian, the first cladding layer is solid glass and an integral part of the core rod during the addition of the cladding tube. Fabian does not deposit a layer of soot onto this rod using a soot producing method. This is precisely what Fabian is trying to avoid. Fabian teaches beginning the process with a low OH concentration rod and a low OH concentration tube that are obtained separately via known methods and then combined.

Applicants assert there would be no reason or motivation to combine Fabian with Blankenship and Itou. Both Blankenship and Itou are soot deposition methods. Fabian, with the exception of the optional third cladding layer, is a rod in tube method. The addition of the optional third layer according to Fabian does not address how to obtain a low OH concentration in the glass rod while depositing soot from a burner and is unhelpful. While Fabian achieves a low OH concentration in the core rod, the method is

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different. The Examiner does not illuminate a method step of Fabian useful or applicable to Blankenship or Itou that overcomes their deficiencies.

Applicants have amended claim 1 to make clear that the soot producing burner combusts a hydrogen containing fuel. Support for the amendment can be found at paragraph [0042].

For at least the reasons given above, Applicants assert that claim 1 as amended is patentable over the prior art of record. Claims 6 – 8, and 13 are therefore also patentable as depending from a patentable base claim.

The Examiner has rejected claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659) as applied to claim 1, in further view of Powers (4,726,827).

For at least the reasons given above, applicants assert that claim 1 is patentable over the prior art of record, and that claims 2 and 3 are also patentable as depending from claim 1.

The Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659) as applied to claim 8, in further view of Itoh, et al (23003/0101772).

For at least the reasons given above, applicants assert that claim 1 is patentable over the prior art of record, and that claim 9 is also patentable as depending from claim 1. Itoh does not cure the deficiencies of Blankenship, Itou and Fabian.

The Examiner has rejected claim 10 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659) as applied to claim 1, in further view of Seto, et al (English Abstract of JP 63123829).

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For at least the reasons given above, applicants assert that claim 1 is patentable over the prior art of record, and that claim 10 is also patentable as depending from claim 1. Seto does not cure the deficiencies of Blankenship, Itou and Fabian.

The Examiner has rejected claims 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659) as applied to claim 1, in further view of Ooishi, et al, (2002/0140659).

For at least the reasons given above, applicants assert that claim 1 is patentable over the prior art of record, and that claims 11 and 12 are also patentable as depending from claim 1. Ooishi does not cure the deficiencies of Blankenship, Itou and Fabian.

The Examiner has rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659) as applied to claim 1, in further view of Fogliani, et al (WO/02/090276) or Shultz (3,826,560).

For at least the reasons given above, applicants assert that claim 1 is patentable over the prior art of record, and that claim 13 is also patentable as depending from claim 1. Fogliani does not cure the deficiencies of Blankenship, Itou and Fabian.

The Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itou (English Translation of JP 09-278477) in view of Blankenship (3,932,162) and Fabian (2003/0140659) and Fogliani, et al (WO 02/090276) or Shultz (3,826,560) as applied to claim 13, in further view of Springate (3,421,560).

For at least the reasons given above, applicants assert that claim 1 is patentable over the prior art of record, and that claim 9 is also patentable as depending from claim 1. Neither Fogliani, Schultz nor Springate, separately or in combination, cure the deficiencies of Blankenship, Itou and Fabian.

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The Examiner has rejected claim 17 – 19 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Itoh (English Translation of JP 09-278477) in view of Itoh, et al (23003/0101772).

More specifically, the Examiner argues that Itoh teaches a method for making an optical fiber preform where the rod has a surface temperature of 600°C, which does not exceed 640°C, and that it would have been obvious to utilize the starting temperature of Itoh to promote good adhesion.

Applicants disagree and traverse the rejection. Applicants' claim does not recite what the starting temperature of the rod should be. Applicants claim states a temperature that the surface of the rod must not exceed. For example, although Itoh teaches that the surface of the rod is preheated to at least 600°C, Itoh also teaches at paragraph [0023] that the surface temperature of the soot deposited overtop the rod should be 800°C to 1150°C. And, while Itoh initially states this is a preferred range, Itoh at paragraph [0024] provides reasons why a temperature less than 800°C is undesirable. That is, improved adhesion does not occur. Thus, there is no rationale as espoused by the Examiner for using a temperature less than 800°C. In any event, Itoh does not teach or fairly suggest a soot surface temperature less than 800°C. It stands to reason that once deposition commences, if only at the first pass or so, the temperature at the surface of the glass rod exceeds Applicants' recited limit. Contrary to the Examiner's position, it is irrelevant that the rod surface temperature of Itoh at some point is less than Applicants' limit. This is not what Applicants' claim states. Applicants' claim states that the surface temperature of the rod does not exceed (as amended) 780°C, or as further stated in claim 19, 640°C, and Itoh does not teach this.

Applicants argue that for at least the reasons given above, claim 17 is patentable over the prior art of record, and that claim 19 is therefore also patentable.

Conclusion

Based upon the above amendments, remarks, and papers of record, Applicants believe the pending claims of the above-captioned application are in allowable form and